Chapter 14
The Decision to Move: Being Mobile and Being Rational in Comparative Anthropological Perspective

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Small Places, Big Issues

Looking at the relationship between rationality and action in the domain of space, anthropologists first think of actions such as walking and the related decision to move or to stay. Walking may be considered the prototypical human action in a spatial setting. Correspondingly, the decision to move is the prototypical challenge to human practical reasoning in the context of moving through space. I wish to contribute to the topic of rationality and action by reviewing cases of human mobility and human orientation in space in some detail. This chapter is based on ethnographic work I have carried out with various groups of mobile hunters and gatherers over the years, particularly in southern Africa and Australia. Do these remote foragers have anything to offer to understanding decisions that matter most in the current world (regarding the current refugee and migration crisis, for instance)? I propose the following considerations with regard to this question. First, bringing in examples from far away is a key element in combating the common bias that "there is no alternative" (see Widlok, 2009a). A case study exemplifying a very different mode of engaging rationality with action underlines that alternatives always exist and that it is worthwhile to spell them out clearly and develop them creatively. Second, the forager decision to move occupies the opposite end of the spectrum of human possibilities in that it focuses on rationality and action in a basic face-to-face setting without being confounded by effects of larger institutional frameworks. Third, the major global crises always come down to numerous smaller dilemmas and questions that social agents need to solve and that preoccupy them. For most agents the

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large issues become problematic only when they translate into everyday decisions such as whether or not to relocate. In this chapter I therefore adopt the general anthropological strategy of tackling big issues in small places: I study the relation between rationality and action as exemplified by foragers in the Namibian bush.

Although the decision to move may be thought of as basic, many differences between various foraging groups are ignored in this chapter for the sake of the general argument. One uniting feature of forager mobility stands out from the diversity of cases, climatic zones, and points in time: All foragers clearly have more than just ecological reasons for relocating. Granted, when social agents justify a relocation they often mention environmental factors, especially the accumulating dirt at a certain place and the anticipated ripening of a desired fruit at another, distant place, but a variety of motives can lead individuals or groups to pick up and move. Ethnographic evidence leaves no doubt that reference to environmental conditions is in fact usually a pretext to cover up either actual or imminent social conflict that people want to escape or prevent (Kent, 1989; Widlok, 1999). Moving is the main strategy for solving disputes. When ill-feelings or social tensions occur in these societies, the dominant strategy is to split up and move apart. Hence, there are many more moves than the natural environment alone necessitates. Even in situations where people are more or less settled, they move their hut within the settlement for purposes of dispute resolution, altering spatial closeness and distance in order to manage *social* closeness and distance. Out of 89 huts in a settlement that I stayed in, less than 18 % remained in the same place in the course of a single year (Widlok, 1999, p. 10). The challenge is to understand this mobility and these decisions to move, to place them in the larger framework about theories connecting rationality and action. What is the rationality behind these moves? Is it a special kind of rationality geared specifically to the action at hand? What general lessons about the social embeddedness of decision-making can be drawn?

State of the Art: Rational Choice Models of Mobility

The mobility of hunter-gatherers is not a new field, so this chapter begins with a brief review of some of the existing anthropological models so as to prepare the ground for my theoretical argument. Probably the best known anthropological model in this respect is optimal foraging theory (Martin, 1983). It is particularly interesting because its application has not been limited to living hunters and gatherers but broadened to cover human behavior more generally. For instance, this theory has served to model human behavior in western-style museum exhibitions (Rounds, 2004). The assumption is that visitors to an exhibition optimize their visit by matching elements of high-interest value with low search costs and that there are some do's and don'ts that result in rules for deciding how long and in what order one should view the items at an exhibition. These rules (search rules, attention rules, quitting rules) are aimed not at the best possible solution but at one that is satisfactory given the environment as it is (p. 404).

The original version of optimal foraging theory consists of theorems intended to explain when and how foragers move from one resource to another (see Kelly, 1995,

for an overview). For example, the theorem of diminishing returns, a central feature of optimal foraging theory, holds that staying in a given patch, say a grove or a small forest of nut trees that foragers exploit, requires increasing work in the form of walking to nut trees that are ever further away within the patch. At a certain point the additional work generates ever fewer returns. The rational choice solution to the problem, namely, moving camp to another grove, is an initial extra investment, but there is a point at which that investment is compensated for by the decreasing returns of the original patch. On the basis of several assumptions about caloric requirements and caloric expenditure (Kelly, 1995, pp. 133–134), the optimal foraging theory predicts that hunter-gatherers will make a move to another patch when a one-way foraging distance reaches 3 km (1.9 miles) on average. This calculation matches what many reports say about the way in which foragers move. Foragers do not stay in a forest until the last nut has been consumed. They walk off much earlier, and the model can show that this strategy complies with rationality in terms of getting the best deal given a number of available patches. When the gathering of the same amount of nuts requires ever more effort, the point at which foragers will leave a given patch of resources will be earlier than the point at which approaching starvation would necessitate a move. Optimal foraging theory also goes beyond this scenario, for it takes into account more complicated ones as well. Indeed it must because many factors are involved (e.g., the number of foragers, the size of a group that shares foraging returns, the variety of storage possibilities, increases or decreases in the desired quantity to forage, and the nature of what is foraged). One could even say that it will eventually be very difficult to disentangle causes and effects in such a model. What appears to be a given patch may turn out to be the variable outcomes of a combined set of practices.

According to optimal foraging theory, forager movements are rational because they follow calculable thresholds. Of course, foragers do not perform this calculation abstractly with graphs. Instead, they are driven by the logic inherent in the environmental conditions and the ways in which human exploitation interacts with these conditions. Other proximate reasons, such as social tensions, may also be considered, but they are thought to boil down to the *ultimate* causes inherent in the logic of resource exploitation (Kelly, 1995, p. 140). In other words, in this model rationality (as exhibited in the way foragers use scarce resources) is completely contained in the environmental action and ultimately dictated by environmental conditions. It is still a sort of rationality but one that mandates certain cultural practices by ecological necessity instead of being mandated by cultural rules.

Nonetheless, caution is needed to avoid succumbing to the "fallacy of the rule" (Bourdieu, 1977, p. 29), which establishes a likely outcome and reinstills it in the minds of the agents as something that has caused the outcome. Optimal foraging theory exemplifies a strongly deductive notion of rationality. It is usually seen as adhering a strict, nomothetic, deductive approach. The conditions of a patch and the characteristics of the forager group exploiting it (e.g., the number of people and their caloric intake) are defined as premises allowing one to derive what the rational behavior in that situation will be, for that behavior necessarily follows. If real-life foragers depart from what is predicted, either they are mistaken (and will eventually

die out from maladaptation) or the observers are mistaken in their premises and need to adapt the formula (the values making up the graph), but the deductive logic of the model at large is not questioned. However, optimal foraging theory may be more productive in combination with abductive reasoning (see below). After all, the assumption that foragers move (or shall move) after three days *because of* the inherent rationality of patch depletion holds only until there are alternative explanations that are more plausible.

A need for alternative explanations seems evident from a close examination of the ethnographic record that describes the life of foraging groups. As formulated in a study on Canadian Unuk (Eskimo) hunter-gatherers,

> In the spring…the spirit of impermanence seemed to infect people, so that, from my point of view, they seemed to make the maximum rather than the minimum necessary number of moves. When the flooding river forced us uphill, the retreat was always made foot by foot as the river rose. For several days we moved camp at least once a day and sometimes oftener, and always when the water had arrived within inches of our doorsteps....It sometimes seemed as though moving—rearranging the environment—were a form of play for the Eskimos, a pleasure in itself. Whatever the explanation, I never completely shared the Eskimo spirit....Moves were a nuisance that disrupted my work and, worse, shifted my world as a kaleidoscope shifts its bits of glass, making me uncomfortably aware of the pattern's fragility. (Briggs, 1970, p. 32)

This account is but one of the many that have shed doubt on the universal applicability of optimal foraging theory. As pointed out above, residential moves are not guided only by subsistence efficiency. The acquisition of other raw materials or the attraction of other places may also be important (e.g., for finding a spouse or for joining a ritual). A place's adverse conditions (e.g., a plague of insects) may be a crucial factor, too. All these aspects are possible social motivations for residential moves (Kelly, 1995, p. 147). The model of diminishing returns is not a *law* of diminishing returns. One cannot assume (or deduce) that moves are *ultimately* due to foraging efficiency. It is possible only to abduct that this foraging efficiency for food resources is a factor that is part of the rationality at work, more in some cases and less in others. The implication is not, however, that the aforementioned Unuk Eskimos (and the other known groups) are acting irrationally. Should one assume instead that they have a kind of primitive rationality, now politically more correctly called a forager mode of thought? What else may lie behind formulations such as "spirit of impermanence" or "the Eskimo spirit" in the quotation above?

State of the Art: Decision-Making Probability

Most anthropologists studying hunter-gatherers have explored this relativistic alternative by trying to come as close as possible to achieving what is usually called the *emic* view. It is the approach of basing descriptions of the decision-making process on locally defined criteria, taking the decision-makers to be the experts, and allowing that the rationality of the agents may be very different from that of the observer.

One can try to systematically adopt the emic view by drawing on ethnographic decision tree modeling (Gladwin, 1989). The textbook example for this theory is not one of foragers but rather of American college students and the question of whether or not they go to have lunch at McDonald's. The technique is that one tries through interviews to elicit as many criteria as possible that are said to be relevant for this decision to go or not to go (criteria such as whether one likes the food, likes the service, knows where a McDonald's is). Then the criteria are sorted according to a decision-making tree, which is subsequently tested against the decisions that the college students actually report when being asked where they have lunch. That is, the model should account for most of the decisions observable in real life. Failure to do so would indicate that a criterion is either missing from or misplaced in the decision-making tree. As a product of inductive reasoning, the tree makes predictions on the basis of probability and takes account of local values and decision-making criteria. If some of the decision-making tree's underlying criteria and values are subject to change (e.g., with age), decision-making trees will likely differ from one cultural or subcultural group to the next. One can thereby test and substantiate a relativistic hypothesis through the inductive reasoning of probability.

Again, this model of ethnographic decision trees works well in some instances. It apparently holds in particular for small-scale farmers and their choices of which crop to grow and when. Stated differently, it seems to work in settings of small homogeneous groups with decisions of seasonal regularity. It does not work as nicely with foragers, however, as I found when trying to employ this method with San ("Bushmen") in Namibia. The individuals there are not homogenous in their responses, and it seems that the decision to move camp is not considered an instance that can be looked at through the lens of probability but rather only in personal terms as it were. The question that I asked in my field research was not about going to McDonald's (Namibia being one of the world's few countries without McDonald's). Instead, I asked what locals thought about attending secondary school, which for them means moving away from home, attending boarding school, or staying with distant family. There was no problem in eliciting an ethnographic decision tree. Everyone agreed that secondary education was important and that children should take this opportunity if they had found someone to pay their fees, buy them a school uniform, and offer them a place to stay. There was also agreement that discrimination by teachers or fellow students, food shortage at the place one was staying, or similar problems should not be permitted to make the children quit school. Despite this consensus, however, individuals constantly, and often for highly idiosyncratic reasons, deviated from the outcome predicted by the model.

It emerged in this research that the social agents concerned refused to see major personal choices (such as moving away from home to attend school) as decisions to be taken from a perspective of nowhere in particular. The agent was not regarded as replaceable by anyone else. There was no notion of "all things being equal," which would have allowed for a neutral weighing of alternatives. This personalization of decisions applied to the manner in which the agent is perceived, the fact that a decision is seen to be analogue rather than digital, and the degree to which individual

decisions are seen as incongruent with those of others. In the following paragraphs I examine these aspects in more detail.

First, the San place a high social premium on allowing individuals to make their own decisions, and this applies to children from an early age. Parents leave it to their children to choose whether or not to go to school. The teachers, who are exclusively from other ethnic groups with a farming background, tend to be outraged about this practice and shake their heads. When they go to see the parents to ask them why a child has run away from school or did not attend, the parents would usually respond, "Go and ask the child. She [He] is sitting right here." Whereas the teachers feel that the parents have a duty to make their children go to school (and that the children have a duty to obey their parents), San parents and children see it as a matter of personal autonomy for the pupil to decide. Even if one is generally in favor of schooling, this preference is trumped by the self-determination of the individual for his or her own life.

Second, San parents and children alike strongly emphasize the need to be able to revise decisions. Decisions are made as one goes; they are not thought of as on/off switches or inexorable if-then mechanisms. This characteristic, too, clearly surfaces in intercultural contact when understanding breaks down. Employers (and anthropologists for that matter) who think they have struck a medium- or long-term agreement that, for example, obliges local people to produce tools in exchange for money or to attend school for an extended period are constantly frustrated. The local people often decide to abandon the plan or their cooperation halfway through, even if it means that they do not receive the money or diploma they had originally envisioned. This frustration by outsiders has been translated into a stereotype casting San people as unreliable and unstable. From a San perspective, however, it is a consequence of avoiding decisions that cannot be revised in the light of new information and events. They do not wish to make a decision once and for all at the beginning of an action but rather only once the action has been completed.

Third, social agents in the San cultural settings seem to be aware at all stages of the decision-making process that they are living only that one life and that decisions such as splitting up or joining up again are not repetitions of one another, although they may occur frequently. In discussions of past or future decisions, there is a preoccupation with particulars. Even if everyone has agreed in principle on the criteria for a sound decision on schooling, for instance, the underlying assumption is that one small thing can be sufficient to allow the shared hierarchy of criteria to topple. A minor thing of this sort could be, for instance, a brief exchange of words with a teacher or another student, some insult, or some minor problem with food. What seem to be excuses to the outside, such as the fact that one had no soap with which to wash, no shoes to wear, or no decent food that morning, are acceptable contingencies that distinguish one decision from another. Just as personal lives are ultimately unique because they are subject to particular differences, so are individual decision-making processes (see, Widlok, 2009b, for a discussion of moral decision-making). Decisions may be faulty with respect to principles but comprehensible and justifiable in terms of the particulars.

Given the high premium on individual autonomy, a stance representing a probabilistic model of reasoning becomes inimical to understanding the personal and situational aspects of the decisions in this ethnographic case. Arguably, the decision to move is felt to be a personal, not a rational, one if the term *rational decision* is understood to mean a choice arrived at from no particular perspective that allows one to weigh aims and means in a detached manner. By contrast, the default assumption is that the decision to move is made at a particular time by a particular person in a particular evolving setting. I thus realized that there would always be cases unaccounted for by any of these decision-making trees despite a degree of agreement on the criteria for the decision to move from one location to another. In practice the predictive value of these tree models is precarious: Because of everyday life's imponderabilia, decision-makers in these settings are ready to reconsider their decision at any time. These decisions are seen as uniquely affecting personal lives, so people refuse to judge them aloofly as being instances of a general type. Instead, they highlight the personal, ultimately unique setting. A calculus of probability does not work, for the underlying presupposition of such a calculus is that one such decision is interchangeable with other decisions of the same type and that the two alternatives can be weighed against each another. However, one should be cautious to treat this observation as evidence of the rare or exotic nature of decision-making in this particular group of foragers. In fact, many observations in modern western settings also fit the description of personalized decisions (Fuchs, 2008, p. 342), especially when considering fundamental, irreversible decisions of one's life that do not comply with ideas of stock-taking (Spaemann, 1996, p. 126).

The Pragmatics of Decision-Making

At this juncture I take the opportunity to recapitulate the two models presented so far for understanding forager mobility. Optimal foraging theory is generally used as a deductive model that underlines the necessity to move, that is, the assumed exigencies that ultimately dictate the decisions that foragers make. Ethnographic decision tree modeling, by contrast, has been employed primarily to generate inductively whatever local models of decision-making may exist to offer agents (and observers) probable outcomes and probable criteria that constitute a decision-making process. Optimal foraging theory, one could say, links all rationality to outcomes, whereas ethnographic decision trees separate out different rationalities and their resulting actions. I have suggested that neither of these models can fully account for the ethnographic evidence of forager mobility. There appear to be patterns in the ethnography, but the arguments involved are neither those of necessity nor of probability but rather of *plausibility*.

The need is for a less problematic model that links rationality and action in a procedural view of rationality. I suggest going beyond the traditional models of strict deductive or inductive logic, strict in the sense that they claim truth outside the conversations and interactions that unfold in the social context of the reasoning in

question. As a first step it is important to have an idea of what the social context looks like in this case.

Decision-making in a forager group such as the San of Namibia does not follow quasi-legal or rigid procedures. Instead, participants and observers alike can derive decisions only from the continuous discourse that allows them to make decisions based on plausibility. Their conversational and interactional style is a particular one of repetitions, overlaps, and echoing in everyday talk. Consensus is achieved as the interlocutors repeat and echo some opinions or arguments and leave out others. This kind of exchange enables people to make intelligent guesses about what they and others will be doing next. The strategy requires that everyone be allowed to join in the conversation while avoiding prominence (and exposure) as an individual voice of authority. Similar strategies for achieving consensus have been observed elsewhere, as in Aboriginal Australia (Liberman, 1985, p. 104). Taken together, they differ not only from the dominant western-style conversation and interaction but also from the aggressive and self-assertive style found in many societies, including "Big Man societies" in Melanesia or segmentary systems in sub-Saharan Africa.

The following excerpt is one of the best known examples from the !Kung San, who are neighbors of the Hai//om San with whom I have worked and who have a similar interactional practice of overlapping and echoing talk: "'Yesterday,' 'eh,' 'at Deboragu,' 'eh,' 'I saw old/Gaishay.' 'You saw old/Gaishay.' 'eh, eh.' 'He said that he had seen the great python under the bank.' 'EH!' 'The python!' 'He wants us,' 'eh, eh, eh,' 'to help him catch it'" (Marshall, 1976, p. 290).

Among the San, people often talk in parallel, and there is no formal conclusion to this talk. Instead, it is made up largely of "topographical gossip" which invokes places and movements but without any formal decisions (Widlok, 1997, p. 321). Apart from this feature of particular conversational forms, the reasoning involved allows for unpredictable events in that nonhuman and apparently nonanimate features of the environment are expected to come in as well, influencing the direction that a decision may take. When people in this community refrain from long-term planning, it is not that they are incapable of doing so but rather that they allow the state of the environment or of other persons to prompt or trigger their decisions at certain stages of the process. Detailed studies on the process of tracking animals have shown that anticipating and predicting the movement of an animal that one is pursuing involves a continuous creation of new hypotheses in the light of new information added to the incomplete picture of tracks and other signs on the ground. This activity also involves a constant dialogue between trackers who are allowed to maintain their diverging views as events unfold (Liebenberg, 1990, p. 108). Making decisions about moving (or indeed any other decision) entails a similar process of encouraging heterodoxy in views, keeping the decision open until very late in the process and ultimately always allowing individuals to maintain their own diverging view. In residential mobility this tolerance of diverging views is facilitated by the fact that packing up one's belongings is easy; it allows for fast and flexible reactions either to join a party that leaves or simply stay put.

Having briefly described the mode of reasoning ethnographically, one may now ask whether there is a more general model that can help reintegrate these observations

into a comparative theory on rationality and action. It turns out that the plausibility mode of decision-making that has been observed in field research with foragers appears to have its counterpart in current strands of the theory of reasoning. More specifically, the philosophy of science has a growing body of literature by scholars seeking to define rationality not as a narrow logical concept based on necessity (deductive inference) or probability (inductive inference) but rather as reasoning based on plausibility, or what is called abductive inference (see Flach & Kakas, 2000; Josephson & Josephson, 1994; Walton, 2004). In other words, there is at least a third form of reasoning that is both widespread in everyday decision-making and capable of accounting for the complexity of decision-making among mobile people.

Abduction is the generation of hypotheses based on the evaluation of alternatives (Walton, 2004). People witnessing a surprising event (e.g., the light going out, foragers relocating yet again) creatively seek an explanation that would make sense of it, would make it appear to be a matter of course. When the light goes out, one works backward as it were, usually first suspecting that the bulb is burned out. If *all* light bulbs are observed to have gone out, one may plausibly infer that a fuse has blown. If the lights are out not just in one's own house but in all the houses on the block, then one may suspect a wider power failure as the cause, and so on. None of these inferences is necessary, deductively valid, or probable in a strict sense. There are many possible reasons for the light bulb(s) having gone out, and some may have the same estimated probability (e.g., burned-out bulbs and blown fuses). What people do when reasoning abductively is tap into their background knowledge and select the most plausible explanation in a procedural fashion. Given the premium that the San place on personal autonomy, a forager of that community is constantly prompted to make sense of the sometimes erratic movements of other elements in the environment, whether fellow foragers, game animals, or erratic rainfall. The decision by the forager to move or stay rests on the background knowledge of persons and places that he or she has encountered. It is a type of reasoning that does not follow strict rules of necessity, the regularities of majority rule, or predictable seasonality but emerges by deleting the less plausible alternatives in the course of protracted social decision-making. Abduction is a way of generating an emerging certainty (not truth) that identifies the least defective alternative given the group's incomplete knowledge.

Abduction is, of course, a prevalent form of reasoning. When making sense of actions, humans usually combine deductive, inductive, and abductive arguments—each type of logic having its distinct function (Walton, 2004, p. 86). They all feature in scientific explanation, including that in the natural sciences (see Agar, 2013). But unlike deduction and induction, abduction reminds one that explanation and knowledge formation as a whole are dialogical and procedural. Processes of knowledge formation do not follow a fixed set of linear rules. Selection of the most plausible hypothesis is a process of dialogue with both objects that play a role (e.g., bulbs and natural processes) but also with other humans with whom one is engaged and who may support or doubt one's hypotheses.

For a long time, abduction was taken to be a defective form of deductive reasoning, for it was frequently defined as a case of affirming the consequent (e.g., where there is smoke, there must be fire). The idea of abductive reasoning seems to have been marginalized together with everyday cognition (Lave, 1988) as exemplified by the reasoning of foragers (Liebenberg, 1990). But the strength of abductive inference is evidently not in an isolated statement (a syllogism) but rather in a creative and explanatory mode of logical reasoning that establishes the best available hypothesis at a certain point in an open, explanatory dialogue that invites additional testing and evaluation. In other words, this strength is less likely to show up in experimental isolation than in ethnographic cases. Understanding reasoning in processes means recognizing that it matters where actors are in a complex decision-making process. Abduction is a plausible short-cut, especially in the early stages of trying to make sense of a situation or an action. But there may be situations (e.g., the tracking of animals) in which it is useful to cultivate this mode of reasoning for as long as possible in the problem-solving process. Similarly, I argue that this mode of reasoning is important *throughout* many decision-making processes, not just in their initial, creative stages.

Trying to explain why someone has moved is, I suggest, very much an abductive dialogical exercise that entails observation of natural givens (e.g., the distribution of resources and the number of people involved) but also interaction with other agents with whom one is in constant communication (and whose motivations one may abduct if they are not made explicit). Moreover, I suggest that making a rational decision on when to move is also a form of abductive reasoning. Determination of the best time to move (and the best destination to move to) is typically *not* based on necessity or probabilistic calculus but rather on broad background knowledge, informed guesses as it were, in dialogue with others, and not only fellow human beings. Moreover, I suggest that abductive inference can provide an account that links reasoning and action into a coherent whole that can also explain cultural variation. The recognition of cultural variation in abductive reasoning is the final point of this chapter.

Variation in Reasoning

The case material presented in this chapter can enhance a general model of abductive inference pertaining to dialogical knowledge formation as it emerges in contemporary philosophy and logic. An explanation of variation surfaces when one realizes that both the type of dialogue through which reasoning takes place and the partners with whom it takes place are likely to vary across situations. The prototypical forms that the dialogue of explanation takes in the philosophical literature are those between teacher and student, between judge or prosecutor and witness, and, more recently, between a user and an expert system of artificial intelligence through an interface (Walton, 2004, p. 88). None of these three examples resembles that of a group of foragers determining whether they should move or not.

- Forager decision-making on any matter (as exemplified by the San ethnography) differs greatly from the typical teacher–student relationship. As Hoymann (2010) reported, asking inquisitive questions is not encouraged among foragers. Young people are expected to learn by observing and trying or by being told at the appropriate moment, not by prompting adults as in a typical teacher–learner situation.
- Communal talk among foragers is also very different from the hierarchical setting of court proceedings in that communal talk among foragers has no fixed leadership roles and no clearly delimited sequences or groups of speakers. Indeed, their communication makes heterodoxy possible and sometimes even encourages it. People in these settings may stick to their decisions and explanations. Because they are supported by others, they also have "the freedom to be wrong at times" (Liebenberg, 1990, p. 162). When hunting, for instance, individuals may maintain rather different views as to what the tracked animal is likely to do next. When it comes to moving camp, anyone may decide not to go with the majority, but there are other options, such as being on one's own or splitting up the group.
- Expert systems today commonly take the form of multiple digital circuits of yes/no decisions. Research specifically on questions established that San speakers have a preference for not posing yes/no questions (Hoymann, 2010). In contrast to speakers of many other languages, they do not seem not to use requests for confirmation that would press the interlocutor to use yes/no. In contradiction to the most typical form of questioning used in expert systems (Widlok, 2008), they avoid cornering their interlocutors and seem to take care not to infringe the autonomy of others. When they draw on the knowledge of others, it seems very unlike the process of consulting an expert machine.

What the forager cases suggest is that the dialogic nature of reasoning is compatible with a variety of equally competent forms of dialogue: inquisitive, circumspect, digital, open, bilateral, multilateral, unilinear, and multistrand. In fact, I argue that the different practices of dialogue may produce different forms of reasoning and a spectrum of rational outcomes. It is neither one rationality only nor anything goes but rather a limited spectrum of possibilities describable in terms of the dialogical practices in which reasoning takes place.

The form of dialogue is not the only entity that may be broader than what the philosophical literature usually covers; the dialoging partners, too, may have a wider range. Reasoning is usually thought to take place either in an experimental mode between individuals and nature (as in much of the research on infants) or among investigating humans pursuing their own individual decision-making strategies. The aforementioned example of light bulbs that had gone out could include interaction with objects (e.g., shaking the bulb, checking the fuses) or interaction with other subjects (e.g., the neighbors, people in the room, or the electric utilities company). The peculiarity of the case about foragers on the move is that the boundary between nature and other persons is drawn in a particular way and differently from what nonforagers may expect. Personalization does not necessarily mean that

natural objects are treated as persons, although such anthropomorphization occurs as well. In many Australian examples, Aborigines do not just talk about the land and its features but may address it directly, as when expressing their respect or even their pity when the land has not been cared for properly. In Aboriginal Australia, a typical indication of a country[1] that has not been cared for is that no one has set fire to it and that it should be visited (see Rose, 1995). Cases differ as to what is subject to personalization. It could be animals, various supernatural beings, sacred places or—most commonly—a combination thereof (as in the Australian case of totemic Dreaming beings that involve animals, superhuman creative beings, and places). The main and more general point is not that a certain set of beings (animate or inanimate) can feature as personalized subjects, as partners with whom one may reason. Rather, it seems that anything can become personalized if it is treated as a person, by which I mean that this *some-thing* is taken not as a thing, an instance of a category, but rather as a unique subject with which one interacts. By contrast, many phases of decision making in present day economics, for instance, entail processes of depersonalization and isolation. The procedures of reasoning are regarded not as a dialogue between persons but either as the interaction between users and computational systems or as abstract systemic processes devoid of personal relations, aspirations, and apprehensions.

Therefore, both the style of the dialogue and the partners in the dialogue may be much more variable than is apparent. Beyond this case of foragers on the move, it may be wise to consider procedural rationality broadly enough to allow inclusion of variations in how procedures unfold as particular forms of dialogue and how partners in this dialogue are personalized or depersonalized. Rationality would thereby cease to be a purely mental phenomenon. Instead, it would reside partially in forms of social communication and interaction as well as in features of the environment that western philosophy and science tend to discount as irrelevant but that can be important triggers or partners in the procedure of reasoning. Why does abductive reasoning describe my ethnographic cases so aptly? I do not think its capacity to do so is coincidental. Rather, it is because this mode of inference is not a stand-alone mode but one that is tied closely to the interacting, corporeal, and relational social beings that we humans are.

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[1] This term is used in Australia to refer to the land belonging to a specific Aboriginal group.

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